Challenge TB - Zimbabwe

Year 1

Annual Report

October 1, 2014 – September 30, 2015

Submitted: October 30, 2015

Cover photo: Parliamentary Portfolio Committee on Health, Ministry of Health and Child Care (MoHCC) and Challenge TB (CTB) representatives pose for a photo during the advocacy dialogue held in August 2015 for increased domestic funding for TB. (Credit: Paidamoyo Magaya)

This report was made possible through the support for Challenge TB provided by the United States Agency for International Development (USAID), under the terms of cooperative agreement number AID-OAA-A-14-00029.

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List of Abbreviations and Acronyms

ACF	Active case finding
AIDS	Acquired Immunodeficiency Syndrome
APA	Annual Plan of Activities
APHL	Association Public Health Laboratories
ART	Antiretroviral Therapy
CBOs	Community based organizations
CDC	Center for Disease Control
CCM	Country Coordinating Mechanism
CI	Contact Investigation
CN	Concept Note
CPT	Co-trimoxazole Prophylactic Treatment
CPU	Central Processing Unit
CTB	Challenge TB
DHIS 2	District Health Information System 2
DOTS	Directly Observed Treatment Short Course
DRS	Drug Resistance Survey
DR-TB	Drug-resistant Tuberculosis
DST	Drug Susceptibility Testing
EMA	Environmental Management Agency
EPMS	Electronic patient monitoring system
ETRR	Electronic TB Recording and Reporting system
FAQs	Frequently asked questions
GF	Global Fund
HIV	Human Immunodeficiency Virus
HJAZ	Health Journalists Association of Zimbabwe
HSS	Health Systems Strengthening
ICF	Intensified case finding
IEC	Information, Education and Communication
IMDP	International Management Development Programme
IRD	Interactive Research and Development
INH	Isoniazid
ITHC	Integrated TB-HIV Care
IPT	Isoniazid Preventive Therapy
I-TECH	International Training and Education Center for Health
KAP	Knowledge, attitudes and practices
KNCV	KNCV Tuberculosis Foundation
LTBI	Latent TB infection
MCAZ	Medicine Control Association of Zimbabwe
MDR-TB	Multidrug-resistant Tuberculosis
M&E	Monitoring and Evaluation
MOHCC	Ministry of Health and Child Care
MRCZ	Medical Research Council of Zimbabwe
NAP	National AIDS Program
NATF	National AIDS trust fund
NFM	New Funding Mechanism
NSP	National Strategic Plan
NTBRL	National Tuberculosis Reference Laboratory
NTP	National Tuberculosis Control Program

OR	Operations Research
PCU	Programme Coordinating Unit (of the Principal Recipient)
PEPFAR	President's Emergency Plan for AIDS Relief
PHE	Provincial Health Executive
PLHIV	People living with HIV
PMDT	Programmatic Management of Drug Resistant Tuberculosis
PMU	Programme Management Unit
PR	Principal Recipient
RR	Rifampicin Resistant
R&R	Recording and reporting
SNRL	Supra-national reference laboratory
SORT IT	Structured Operational Research and Training IniTiative
ST	Specimen Transport
TA	Technical Assistance
TB	Tuberculosis
TB-DRS	Tuberculosis drug resistance survey
The Union	International Union Against Tuberculosis and Lung Disease
TOT	Training of trainers
TrainSMART	Training System Monitoring and Reporting Tool
TWG	Technical working group
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization
Xpert	GeneXpert MTB/RIF
ZBC	Zimbabwe Broadcasting Corporation

1. Executive Summary

Challenge TB (CTB) support in Zimbabwe started in October 2014 as successor to TB CARE I. The United States Agency for International Development (USAID) provides funding for CTB support. Ministry of Health and Child Care (MoHCC) receives support through CTB funded and implemented interventions and technical support from a coalition of four partners. The lead partner is the International Union Against Tuberculosis and Lung Disease (The Union), with KNCV Tuberculosis Foundation (KNCV), World Health Organization (WHO) and Interactive Research and Development (IRD) as collaborating partners. The buy-in for Year 1 was $4.9 million.

The scope of support in the annual plan of activities for Year 1 (APA1) was national with selected key interventions targeting 37 districts in 6 provinces. APA1 was guided by a five year CTB strategic outlook which prioritised all three broad objectives and eight sub-objectives, namely; Comprehensive, high quality diagnostic network; Patient-centred care and treatment; Targeted screening for active TB; Management of Latent TB Infection (LTBI); Political commitment and leadership; Comprehensive partnerships and informed community involvement; Quality data, surveillance and Monitoring and Evaluation (M&E) as well Human Resources Development.

The following are the key outcomes/achievements from APA1 support:

- The national scale up of the use of GeneXpert MTB/RIF (Xpert) in APA1 has contributed to sustained case detection of drug-resistant TB (DR-TB) from 393 in 2013 to 412 in 2014 (6% increase) to 219 for the first half of 2015. CTB supported the installation of 30 GeneXpert instruments in high volume districts and mission hospitals adding up to a cumulative total of 98 instruments as of September 30, 2015. This increased access to this technology from a national coverage of one instrument per 212,982 population (2014) to one instrument per 134,744 population. To optimize the use of this technology, 828 health care workers (HCWs, 357 males, 471 females) were trained on TB screening for presumptive TB patients eligible for testing by this technology. Following the training health facilities began implementing TB symptom screening of all patients accessing health services at all entry points regardless of patient's HIV status. The eligibility for Xpert prioritized key groups such as PLHIV and presumptive DR-TB clients.

- TB CARE I supported a Core Project C5.13 in Manicaland Province in 2014-15 to demonstrate the feasibility of use of Xpert instruments to increase TB case finding among people living with HIV (PLHIV) in HIV care settings. This approach was adopted by the national tuberculosis control programme (NTP) as a standard good practice and was scaled up through CTB to Integrated TB-HIV care (ITHC) sites and all districts in Manicaland. A total of 246 health care workers (96 males, 150 females) were trained on ICF and the Xpert MTB/RIF diagnostic algorithm. Initial results from the ITHC sites showed an increase in the number of bacteriologically confirmed TB cases from 261 in April to June 2015 before the training, to 394 cases for the period July to September after the training. This rise is suggestive of the fact that ICF coupled with use of Gene Xpert for patients who attend health services increases case finding.

- CTB supported the MoHCC to engage 32 members of the parliamentary portfolio committee on health to lobby for increased domestic funding for TB. This was the first direct engagement that has happened between NTP and the Parliament of Zimbabwe. The engagement resulted in 14 (44%) of the 32 parliamentarians signing the Barcelona Declaration, a global commitment by parliamentarians to end TB. A taskforce was established to push the TB agenda in parliament and to advocate for all members of the parliament to sign the Barcelona Declaration. In APA2, CTB will continue to support parliamentary engagement to ensure that a specific percentage of the

National AIDS Trust fund (NATF) is allocated to NTP annually and lobby for TB to be declared as an emergency in Zimbabwe.

- The NTP through CTB support rolled out a guide ***"National guide on TB data collection, analysis and use for health workers"*** developed through TB CARE I. This document provides step by step guidance to HCWs on collection, analysis and use of routine TB data at all levels of the health care system. A total of 61 (49 males, 12 females) district and provincial staff were trained. The following key positive outcomes have been noted:

  - For the first time in Zimbabwe, facilities have started reporting their own TB data to the next level using a standardized form. This form has a qualitative section where HCWs report achievements and challenges after data analysis and action points with clear timeframes to address them and these are endorsed by the head of the facility. This has resulted in improved local data use for planning and decision making.

  - The districts have created Excel based databases with quarterly data from all facilities. This has enabled districts to analyze and interpret data by facility thereby identifying high and low performers. This has enabled the district health management teams to prioritize health facilities for support.

  - As part of the guide a comprehensive support and supervision checklist was developed mainly focusing on key results based on the data. There has been a shift in approach to support and supervision from the traditional to the current style where supervisors and local staff jointly analyze and interpret TB data and agree on action points. This could be a step towards support and supervision visits that can make a difference to TB patient and program management from the primary level of health services upwards.

- A Childhood TB situational analysis was conducted and provided evidence for adaptation of the Union desk guide for the diagnosis and management of TB in children for HCWs. The situational analysis recommended the establishment of a Childhood TB Technical Working Group (TWG) accountable to the existing National Child Survival Task Force.[1] This will ensure that childhood TB interventions are adequately addressed within the overall national child survival strategy. A Childhood TB focal person at national NTP level has been appointed through support from the Global Fund.

[1] National Child Survival task Force is a committee formed to provide technical guidance through programme managers to the Permanent Secretary within MoHCC on child policies, issues and evidence based programmatic approaches. It is chaired by the Department of Paediatrics at the University of Zimbabwe and secretarial services are provided by WHO.

2. Introduction

Zimbabwe is a landlocked country in Southern Africa, sharing borders with Botswana and South Africa to the south, Zambia to the north and Mozambique to the east. Administratively, it is divided into eight predominantly rural provinces and two metropolitan cities, namely Harare, the capital and Bulawayo, the second largest city. The eight rural provinces are demarcated into 65 districts[2]. According to the 2012 census, the projected population for 2014 was 13,350,167 inhabitants.

Zimbabwe continues to be severely burdened by the dual tuberculosis and human immune deficiency virus (TB-HIV) epidemic. The first ever TB prevalence survey was completed in August 2015 and the final report is yet to be disseminated to stakeholders. Estimated trends in incidence, prevalence and mortality are highlighted in Table 1 below;

Table 1: Trends of key TB impact indicators in Zimbabwe 2010-2013[3]

CTB Impact Indicators	2010	2011	2012	2013
TB incidence (all forms) per 100,000 population	635	602	575	552
TB mortality per 100,000 population	36	38	41	40
MDR-TB prevalence among new cases	1.9%	1.9%	1.9%	1.9%
TB-HIV mortality rate per 100,000 population	196	176	160	153

In 2014, a total of 32,018 TB cases were reported through the national surveillance system, representing a 10% decline from the 35,588 cases notified in 2013. This decline was consistent across most provinces. The notification rate in 2014 was 235 per 100,000 population compared to 269 per 100,000 the previous year. Provincial variation suggests a disproportionate burden in the southern part of the country.[4] Inter-district variation in notification rates of all forms of TB is quite significant, from as low as <80 per 100,000 population in Mhondoro to as high as >1,000 per 100,000 population in Gokwe South, pointing to possible variability in district implementation of TB case finding strategies.[9] Southern provinces have consistently borne the brunt of TB-related deaths over the years. The proportion of deaths in the same year among all TB patients ranged between 13-18% in the southern provinces compared to the national rate of 10% [9]. The estimated HIV prevalence in the southern provinces is correspondingly higher than in other provinces.

CTB is the second largest supporter of the NTP after Global Fund (GF). The scope of support for CTB is national with selected key interventions targeting 37 districts in 6 provinces in the southern region of the country. The Union is the lead partner collaborating with WHO, IRD and KNCV. The buy-in for APA1 was $4, 9 million. The country 5-year strategic outlook for CTB prioritised four thematic areas, namely; Case finding, TB-HIV, Programmatic Management of Drug-Resistant TB (PMDT) and Monitoring and Evaluation (M&E). The 5-year CTB strategy was developed in consultation with key stakeholders tapping from existing country documents, such as the National TB Strategic Plan [2015-2017] (NSP), The Global Fund Concept Note, the National TB programme Review, the Standard and Benchmarks Assessments, Epidemiological Assessment among other key documents.

[2]Zimbabwe Population Census 2012
[3]Global TB Report 2014
[4]National TB Control Program 2014 Annual report

APA 1 was guided by the strategic focus of the country 5-year CTB outlook. Table 2 below summarises objectives, sub-objectives and intervention areas prioritised in APA 1.

Table 2: Priority technical areas and scope of work for APA 1

Objective 1	**Objective 2**	**Objective 3**
Improved access to quality patient centered care for TB, TB/HIV & MDR-TB services	Prevention of transmission and disease progression	Strengthened TB platforms
Sub-objectives	**Sub-objectives**	**Sub-objectives**
2. Comprehensive, high quality diagnostic network 3. Patient-centred care and treatment	4. Targeted screening for active TB 6. Management of LTBI	7. Political commitment & leadership 8. Comprehensive partnerships & informed community involvement 10. Quality data, surveillance and M&E 11. Human Resources Development
Intervention Areas (scope of work for APA 1)		
2.3. Access to quality culture/DST ensured	4.1. Contact investigation implemented and monitored	7.1. Endorsed, responsive, prioritized and costed strategic plan available
2.4. Access, operation and utilization of rapid diagnostics (i.e. Xpert) ensured for priority populations	4.2. TB social determinants identified, appropriate interventions designed, implemented and monitored	7.2. In-country political commitment strengthened
3.1. Ensured intensified case finding for all risk groups by all care providers	6.1. LTBI diagnosis and treatment among high risk groups ensured	7.3. Leadership and management competencies and capacities of NTPs ensured
3.2. Access to quality treatment and care ensured for TB, DR-TB and TB/HIV for all risk groups from all care providers		8.1. National partnership and coordinating bodies functioning with appropriate representation and capacity
		10.1. Well -functioning case or patient-based electronic recording and reporting system is in place
		10.2. Epidemiologic assessments conducted and results incorporated into national strategic plans
		11.1. Qualified staff available and supportive supervisory systems in place
		12.1. Technical supervision

3. Country Achievements by Objective/Sub-objective

Objective1. Improved access to quality patient centered care for TB, TB/HIV & MDR-TB services

Sub-objective 1. Enabling environment

A Communications Officer was appointed in APA1 to spearhead CTB communication and community interventions. In APA1 there were no planned activities under this sub-objective. However, some activities were implemented in collaboration with other partners and this helped to highlight CTB's scope of work in country. The activities included CTB media health talk, CTB advocacy campaign at World TB Day, CTB media interviews and participation at the USAID Mission health fair.

Media health talk: This was held with the Health Journalists' Association of Zimbabwe (HEJAZ) members on July 23, 2015. The objective was to sensitize them on the CTB investment in TB control in Zimbabwe and foster a relationship for increased media coverage of CTB funded activities. A total of 25 journalists attended; 12 females and 13 males from on-line print and broadcast media. The health talk was also shared at The Union's global communication platform. This talk resulted in a marked improvement in TB coverage in the media, in particular major local newspapers and local and international radio coverage. There were a total of seven (4 local print media, 1 local radio and 2 international radio) news stories in both print and broadcast media.

USAID Health Fair: CTB attended and exhibited at the partners' health fair organised by USAID on August 20, 2015. The purpose of the fair was to showcase the work being done by various USAID partners and to encourage networking. The 4-hour program attracted scores to the CTB's stand and visitors had the opportunity to ask questions regarding TB, some shared personal testimonies and some collected pamphlets and literature for further reading.

World TB Day: The Country Office supported the NTP in coordinating the 2015 edition of World TB Day. During the commemorations, the CTB Country Director delivered a solidarity speech where he highlighted CTB's support to TB control in the country. The commemorations received media coverage in Zimbabwe Broadcasting Corporation (ZBC) Television news, ZiFM Stereo and published in The Herald and the Weekly Telegraph. CTB was covered in the last three.

The CTB Country Director Dr Christopher Zishiri being interviewed by Jane Pasi from ChannelZim. Follow link below for the full story on CTB work in Zimbabwe and general TB issues. (Credit: Paidamoyo Magaya).
https://soundcloud.com/channel-zim/dr-christopher-zishiri-chats-to-radio-vops-jane-pasi

Sub-objective 2. Comprehensive, high quality diagnostics

The interventions and activities aimed at strengthening comprehensive and high quality diagnosis were as follows:

1. **Access to quality culture/DST ensured through the following activities:**

    - Installation of molecular diagnostic technology (Line Probe Assay)

2. **Access, operation and utilization of rapid diagnostics (i.e. Xpert ensured for priority populations)**

    - Training of health care workers on Xpert use to improve geographic coverage.
    - Installation of 40 Xpert instruments.
    - Printing of Xpert algorithms and calibration of Xpert instruments.

3. **Expedient laboratory specimen transport and results feedback system operational**

    - Support specimen transport system to improve access to laboratory services (50 motor cycles)

The table below summarizes the outcome indicators for this Sub-objective.

Table 3: Outcome Indicators for Sub-objective 2

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
2.3.4	Population coverage per HAIN molecular laboratory	**Description:** Population coverage per HAIN molecular laboratory **Indicator Value:** Ratio **Level:** National **Source:** National TB Reference Laboratory data **Means of Verification:** Annual laboratory reports **Numerator:** Population **Denominator:** Number of HAIN molecular laboratories	13,204,913 population per HAIN molecular laboratory (2014)	6,682,426 population per HAIN molecular laboratory	13,204,913 population per HAIN molecular laboratory
2.3.5	Number of HAIN molecular tests done	**Description:** Number of HAIN molecular tests done **Indicator Value:** Number **Level**: CTB **Source:** National TB Reference Laboratory **Means of Verification:** SRL	0(2014)	270	0 (The machine has not been installed due to delays in renovations)
2.4.1	GeneXpert machine coverage per population (stratified by Challenge TB, other)	**Description:** This indicator measures the average population size per GeneXpert machine **Indicator Value:** Number **Level:** National and Challenge TB geographic areas	1 machine per 212,982 population (2014)	1 machine per 131,028 Population	1 machine per 134,744 population (There were 98 machines as of September

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
		Numerator: Population size (the numerator is available from the most recent census data). **Denominator:** Total number of GeneXpert machines in the country/area.			30, 2015.)
2.4.2	#/% of Xpert instruments that are functional in country	**Description:** Proportion of Xpert machines that are functional in country **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of Xpert machines that are functional **Denominator:** Total number of Xpert machines."	100% (62/62) in 2014	100% (102/102)	97% (95/98) The Central Processing Unit for the 3 instruments had broken down but had valid warranty. Cepheid was working on replacement.
2.4.3	MTB positivity rate of Xpert test results	**Description:** This indicator measures MTB positivity rate of Xpert test results **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of MTB positive samples **Denominator:** Total number of samples from suspected TB cases tested using Xpert test (excluding invalids, errors, no results).	16.6%(2013)	15% (Based on Core Project C5.13)	15.3% (7,942/ 51,963) For the Quarter July-Sept data are available for 68 out of 95 functional Xpert instruments.
2.4.6	#/% of new TB and Rif-resistant cases diagnosed using GeneXpert	**Description:** Proportion of new TB cases diagnosed using GeneXpert **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of new TB cases diagnosed using GeneXpert **Denominator:** Total number of new TB cases	Unknown	TBA	Unknown In APA1, 489 Xpert tests showed RR-TB strains. These could not be aggregated to new and retreatment since the M& E tools were not capturing these. The tests might not be equal to the actual cases due to repeat testing in some sites.

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
2.6.4	# of specimens transported for TB diagnostic services	**Description:** Number of specimens transported for TB diagnostic services via a specimen transport (ST) system **Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** Number of specimens transported for TB diagnostic services via a specimen transport system	54,000 (Estimated TB samples transported, 2014)	60,000	51,120 These data are from October 2014 to August 2015.
2.6.6	Number of bacteriologically confirmed TB cases diagnosed in districts with specimen transport system	**Description:** Number of bacteriologically confirmed TB cases diagnosed in districts with specimen transport system **Indicator Value:** Number **Level:** CTB **Source:** Routine NTP data **Means of Verification:** Data quality assessment reports	7,439 (2013)	8,926 (based on anticipated 20% increase from 2013)	6,436 These data are from October 2014 to June 2015

Key Results:

Access, operation and utilization of rapid diagnostics

A total of 30 out of the planned 40 GeneXpert instruments were installed at district and mission hospitals resulting in a cumulative total of 98 installed machines as of September 30, 2015. CTB supported installation of 30 out of the 98 GeneXpert instruments. During the installations, 828 HCWs (357 males, 471 females) from the laboratory and nursing departments were trained onsite on Xpert use and maintenance for half a day. The training package used was modified from the Global Laboratory Initiative (GLI) Training Package on Xpert MTB and NTP training module on TB-HIV ICF. The content of the training included Xpert instruments installation, biosafety, specimen collection, troubleshooting, daily maintenance, results, reporting, quality assurance and clinical overview on the use of the national algorithm on Xpert eligibility. The Gene Xpert instruments were installed at high volume districts and mission hospitals prioritizing the underserved provinces. This has contributed to increased population coverage from one machine per 212,982 population (2014) to one machine per 134,744 population. As at September 30, 2015, 97% (95/98) of GeneXpert instruments were functional, attributable to the contribution from the maintenance training conducted at all sites during the installation process. In the year under review there were no Xpert instruments that were due for calibration. Of the 98 instrument installed there were two module failures and three CPU replacements done. An additional 246 health care workers (96 males, 150 females) were trained on ICF and use of the Xpert MTB/Rif diagnostic algorithm. These were from the 23 Integrated TB-HIV Care (ITHC) sites and seven districts of Manicaland Province. Initial results from the ITHC sites showed an increase in the number of bacteriologically confirmed TB cases from 261 in April to June 2015 before the training, to 394 cases for the period July to September after the training (50% increase). A total of 2,500 copies of the Xpert MTB/RIF diagnostic algorithm printed with CTB funding were distributed to all the health facilities in the country.

Expedient laboratory specimen transport and results feedback system operational

In APA1, 50 motorcycles were supported in the three major cities and 42 rural districts of the country with a total population of 8,294,437; to ferry sputum and other biological samples for diagnosis and treatment monitoring to laboratories. For the period October 2014 to June 2015, 207,105 specimens were transported, of which 51,120 (25%) were TB specimens. The significant proportion of non-TB related specimen reflected the relative contribution of project support to overall health systems strengthening. On average, the total cost of running the 50 motorcycles is $188,000 per quarter with minimal variations over the quarters. The total number of bacteriologically confirmed TB cases diagnosed within the areas supported in the specimen transport (ST) system was 6,436 out of a total of 9,526 constituting 68% the total of bacteriologically cases confirmed during the same period. For the period October 2013 to June 2014 a total of 6,533 (67%) bacteriologically confirmed TB cases were notified in areas supported by the ST system out of the 9,765 cases notified throughout the country. A stakeholder review of USAID evaluation (Performance evaluation of the TB CARE I medical specimen transport system in Zimbabwe) recommendations was held on August 7, 2015. Key resolutions from this national engagement included:

- Leveraging existing MoHCC staff to ferry specimen, namely motorized Environmental Health Technicians (EHTs) for sustainability, as opposed to a parallel dedicated system that is resource intense as is the case with the current arrangement.

- Phased scale down of the current ST supported system with intent to channel external resources to strengthen the existing system that relies on EHTs. In APA2, 14 motorcycles will be handed over to MoHCC. To sustain the system the MoHCC has made a commitment to ensure that the system will be closely supervised and performance based incentives provided.

Challenges:

- The Department of Public Works was expected to refurbish the National TB Reference Laboratory in Bulawayo to facilitate installation of the Line Probe Assay (Hain) machine to ease the pressure on conventional culture/DST. However, a bill of quantities was provided that was costing well above the budgeted amount. A private contractor was eventually engaged as their quotation was within the budgeted amount. As of September 30, 2015 these renovations were still in progress and are expected to be completed by the end of the first quarter of APA2.

- A total of 10 GeneXpert instruments were not installed as planned due to delays in procurement through the GF. However, these will be installed by the end of first quarter of APA2. Cartridges for the GeneXpert instruments have been procured through GF support and are being distributed through the laboratory distribution system and there have been no significant reported stock-outs at all levels.

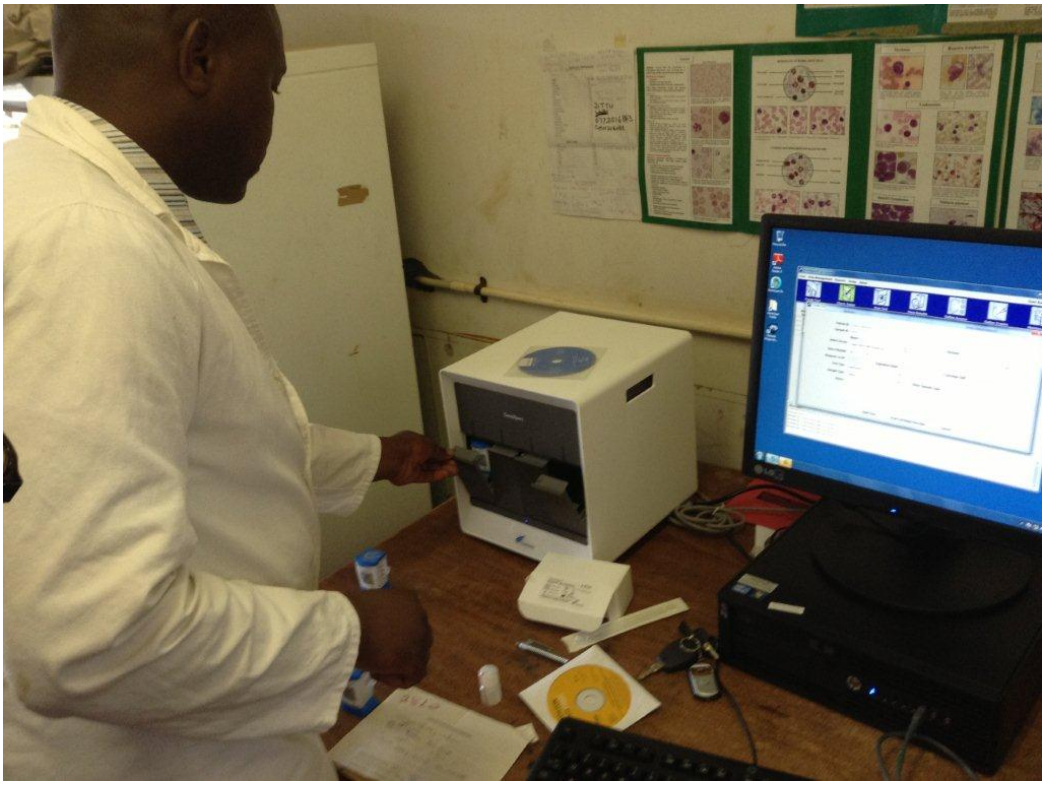
- A total of 2,500 out of the planned 5,500 algorithms were printed because there was a decision by the MoHCC to revise the current algorithm to include all the laboratory tests and other specimens that can be analyzed to diagnose TB. There was a delay in the approval of the finalized version of the algorithm. Alternative funding for this activity will be sought from the GF savings during the first quarter of APA 2 HCWs will be trained on the updated algorithms during the on-site support and supervision visits and mentorship sessions.

- The following data collection challenges were encountered:

- Quarterly notification and outcome data for the CTB fourth quarter (NTP third quarter) was incomplete due to differences in reporting timelines for NTP and CTB. In APA2, CTB will support implementation of District Health Information System 2 (DHIS 2) which is expected to reduce delays in report submission.

- The indicator (#/% of new TB and Rif-resistant cases diagnosed using GeneXpert) could not be collected because the current M&E tools do not disaggregate between Xpert testing for new and retreatment cases. CTB will continue to advocate for the revision of these tools.

- The transition to the new NTP recording and reporting (R&R) system faced many challenges which included lack of adequate training of HCWs and inadequate quantity of R&R tools for all facilities due to limited funding from GF. This compromised the quality of NTP data and the situation is expected to be mitigated by reprogrammed funding from GF which will be channeled to the training of HCWs and printing and distribution of more tools.



Gene Xpert on-site installation training at St Peter's Checheche Hospital, Chipinge, Manicaland (Credit: Herbert Mutunzi)

Sub-objective 3. Patient-centered care and treatment

The interventions and activities aimed at strengthening comprehensive and high quality diagnosis were as follows:

1. **Ensured intensified case finding for all risk groups by care providers.**

    - Childhood TB situational analysis to inform future investments in Childhood TB
    - Adaptation of WHO/Union Childhood TB desktop guide for local use
    - Establish a functional national Childhood TB Working Group
    - Establish a Childhood TB Focal point at national level
    - Maintenance of CD4 machines
    - Decommissioning of old X-ray machines and installation of new machines

2. **Access to quality treatment and care ensured for TB, DR-TB and TB-HIV for all risk groups from all care providers.**

- Conduct advanced clinical DR-TB training course in-country
- Replication of the lessons learnt from the core-project C5.13 in the 23 ITHC sites
- Furnishing of 10 additional ITHC sites renovated through GF
- Targeted on-site mentorship visits

The table below summarizes the outcome indicators for this Sub-objective.

Table 4: Outcome indicators for sub-objective 3

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
3.1.8	% of TB cases (all forms) diagnosed among children (0-14)	**Description:** This indicator measures proportion of TB cases (all forms) diagnosed in children 0-14 years of age. When childhood TB is a priority, being able to report on and measure changes in case notification by age group is important. **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of TB cases (bacteriologically confirmed + clinically diagnosed; includes new & relapse cases) diagnosed in children 0-14 years of age in the past year. **Denominator:** Total number of all TB cases (bacteriologically confirmed + clinically diagnosed; includes new & relapse cases) reported in the past year"	8% (2013)	10%	**7.5% (1,647/20,244)** (Results available for October 1 2014 to June 30 2015) – July to September results to be available by 30 November

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
3.2.4	#/% of eligible patients with drug-resistant TB enrolled on second-line treatment (disaggregated by sex, age and urban/rural)	**Description:** The number of bacteriologically confirmed, clinically diagnosed or unconfirmed MDR-TB cases started on second-line treatment during the reporting period. Unconfirmed MDR-TB cases are those awaiting C/DST results. RR-TB may fall under confirmed or unconfirmed depending on the country's MDR-TB diagnosis algorithm. **Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** The number of confirmed or unconfirmed MDR-TB patients started on second-line treatment in the reporting period"	89% (2013)	92%	95% (324/341) October 2014 – June 2015.
3.2.11	% of HIV+ registered TB patients given or continued on CPT during TB treatment	**Description:** The purpose is to monitor commitment and capacity of programs to provide co-trimoxazole preventative therapy (CPT) to HIV-positive TB patients. It is important for programs to know the proportion of HIV-positive TB patients who receive this potentially life-saving therapy **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of HIV-positive TB patients, registered over a given time period, who receive (given at least one dose) CPT during their TB treatment **Denominator:** Total number of HIV-positive TB patients registered over the same time period.	77% (2013)	95%	**For national level 95% (9,406/9,933)** These data are measured at **outcome level** -Jan to June 2014.The data for July-Sept 2014 will be available in Dec 2015) **For ITHC sites 96% (1,803/1,873)** These data are measured at **notification level** Oct 2014 to Sep 2015.
3.2.12	% of HIV-positive registered TB patients given or continued on anti-retroviral therapy during TB treatment	**Description:** The purpose is to measure commitment and capacity of TB service to ensure that HIV-positive TB patients are able to access ART. This indicator measures people registered as HIV-positive who started TB treatment and who also started or continued on ART (i.e. recorded in ART register) **Indicator Value:** Percent	77% (2013)	90%	**For national level 84% (8,352/9,933)** These data are measured at **outcome level** -Jan to June 2014. The data for July-Sept 2014 will be available in Dec 2015)

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
		Level: National and Challenge TB geographic areas **Numerator:** All HIV-positive TB patients, registered over a given time period, who receive ART (are started on ART) **Denominator:** All HIV-positive TB patients registered over the same given time period."			**For ITHC sites 88% (1,653/1,873)** These data are measured at **notification level** Oct 2014 to Sep 2015.
3.2.13	% TB patients (new and re-treatment) with an HIV test result recorded in the TB register	**Description:** The purpose is to assess how many TB patients know their HIV status, regardless of whether testing was done before or during TB treatment. In settings where HIV is driving the TB epidemic, all TB patients should be offered and encouraged to have an HIV test. **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of TB patients registered over a given time period with an HIV test results recorded in the TB register. **Denominator:** Total number of TB patients registered over the same time period."	92% (2013)	95%	**For national level 95% (14,379/15,089)** These data are measured at **outcome level** -Jan to June 2014. The data for July-Sept 2014 will be available in Dec 2015) **For ITHC sites 95% (2,553/2,678)** These data are measured at **notification level** Oct 2014 to Sep 2015

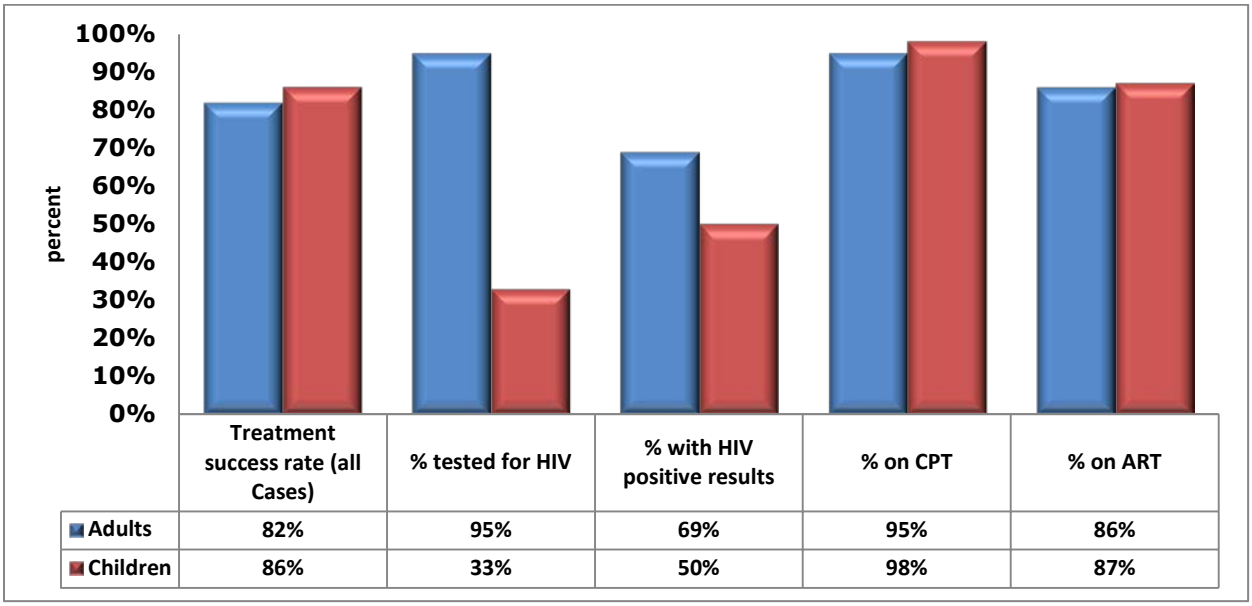
Key Results:

Ensured intensified case finding for all risk groups by care providers

CTB invested in strengthening childhood TB diagnosis, treatment and care through conducting a situational analysis. The WHO/Union desk guide for the diagnosis and management of TB in children for HCWs was adapted following the findings from the situational analysis. The situational analysis highlighted the need to establish a Childhood TB Technical Working Group (TWG) accountable to the existing National Child Survival Task Force. This will ensure that childhood TB interventions are adequately addressed within the overall national child survival strategy. A Childhood TB focal person at national NTP level has been appointed through support from the GF. NTP began tracking treatment outcome indicators for childhood TB in the second quarter of APA1, Figure 1 below shows national outcome data for January to June 2014 comparing adults and children from the routine NTP quarterly reports. Notably, major differences were observed in HIV testing where only 33% of the children were tested compared to 95% for adults. HIV positivity rate was 50% as compared to 69% for adults. Childhood TB is gradually becoming a priority agenda at all levels of health care and despite the low

proportion of children who had a known HIV test result the majority of those who were identified as HIV positive were initiated on CPT (98%) and ART (87%).

Figure 1: Treatment outcome and HIV care indicators for adults compared with children (0 - 15 years) – January to June 2014[5] (NTP data measures 0-15 years[6])



	Treatment success rate (all Cases)	% tested for HIV	% with HIV positive results	% on CPT	% on ART
Adults	82%	95%	69%	95%	86%
Children	86%	33%	50%	98%	87%

The two digital X-ray machines for Chipinge and Lupane Hospitals were installed and were still awaiting commissioning by end of APA1. This is expected to improve clinical diagnosis of TB at these hospitals. Diagnosis of TB in children, extra-pulmonary TB cases and smear or Xpert negative presumptive TB cases will be prioritized for diagnosis using X-rays. It is expected that the machines will be operational by end of December 2015. Six Point of Care CD4 machines donated to ITHC sites were serviced and maintained during APA1.[7]

Access to quality treatment and care ensured for TB, DR-TB and TB-HIV for all risk groups from all care providers

The scaling up of Xpert MTB/RIF testing has seen more cases with Rifampicin Resistant TB (RR-TB) being detected and started on treatment. The percentage of eligible patients with drug-resistant TB (DR-TB) enrolled on second-line treatment increased from 89% (351/393) in 2013 to 96% (210/219) for the first half of 2015. An advanced clinical MDR-TB training course was conducted targeting medical officers from all 10 provinces, and 27 medical officers (24 males, 3 females) were trained in July 2015. This is expected to contribute to improved access to quality treatment and care for DR-TB patients.

The national indicators below, measured at treatment outcome level (for a cohort that has completed treatment) show a general improvement in integrated TB-HIV care. In APA2 NTP will be measuring these indicators at notification in accordance to WHO recommendations. The sustained gains have

[5]NTP Quarterly data summaries for January-March and April-June 2015
[6] NTP is in the process of developing an integrated electronic recording and reporting system which will be able to disaggregate age groups according to specific requirements.
[7] Intentions to introduce HIV-VL platforms on Xpert have been indicated in our five-year outlook and still await country discussions and the new WHO ART guidelines

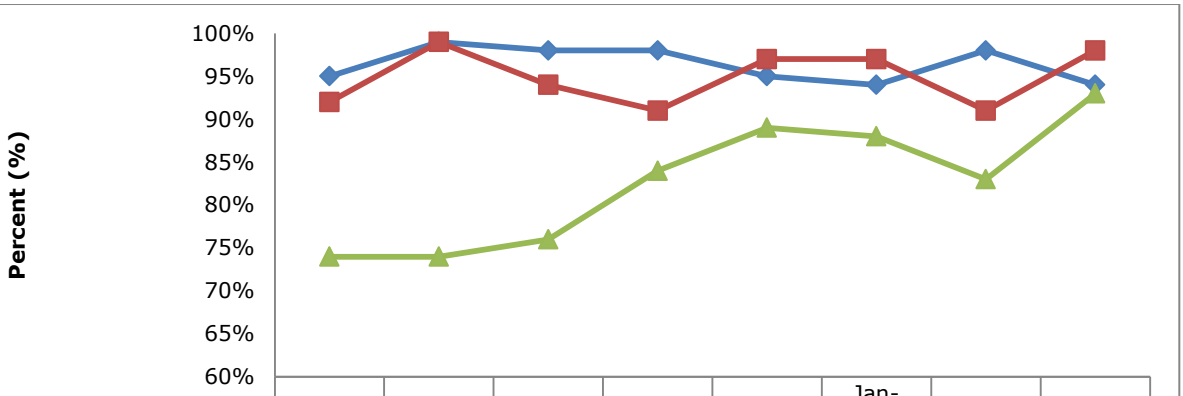
largely been due to a progressive increase in national access to full ART and concerted efforts by different partners to provide decentralized and integrated TB-HIV services:

- The percentage of TB patients with recorded HIV results increased from 93% (32,460/35,283) for the period January to December 2013 to 95% (11,436/12,042) for the period January to June 2014. Similarly, the percentage of HIV-positive patients receiving Co-trimoxazole Prophylactic Therapy (CPT) increased from 77% (17,267/22,424) in 2013 to 96% (7,525/7,875) for the period January to June 2014, while the percentage of those HIV infected TB patients receiving ART increased from 77% (17,267/22,424) in 2013 to 87% (6,781/7,875) for the period January to June 2014.

The ITHC sites indicators below, measured at notification level, showed a general improvement in integrated TB-HIV care. These results are particularly strong as they are measured at the time of notification verses the national data, which are measured at the end of treatment (i.e. outcome). Those reported at outcome have ample time to test for HIV and ensure that patients are initiated on CPT and ART compared to the scenario with ITHC sites that provide TB/HIV integrated services immediately:

- The percentage of HIV-positive registered TB patients given or continued on CPT during TB treatment was sustained above 95%, in CTB APA1 (October 2014 to September 2015) it was 96% (1,803/1,873)
- The percentage of HIV-positive registered TB patients given or continued on ART during TB treatment increased from 84% (1,795/2,134) in TB CARE APA4 (October 2013 to September 2014) to 88% (1,653/1,873) in APA1 (October 2014 to September 2015).

Figure 2: TB-HIV indicators for ITHC sites October 2013-September2015



	Oct-Dec 2013	Jan-Mar 2014	Apr-Jun 2014	Jul-Sep 2014	Oct-Dec 2014	Jan-Mar2015	Apr-Jun 2015	Jul-Sep 2015
Known HIV result	95%	99%	98%	98%	95%	94%	98%	94%
on CPT	92%	99%	94%	91%	97%	97%	91%	98%
On ART	74%	74%	76%	84%	89%	88%	83%	93%

Based on the recommendations from Core Project C5.13, in July 2015, 41 nurses (12 males and 29 females) from 23 ITHC sites were trained on strengthening TB case finding for all people living with HIV (PLHIV) through intensified TB symptomatic screening, sputum specimen collection, optimized use of GeneXpert for diagnosis and correct recording and reporting. As a result of this training there was a notable increase in the number of all TB cases notified from 605 notifications for the pre-training

period April to June, 2015 to 752 notifications (24% increase) for the post-training period July to September. As at September 30, 2015, a total of 58,737 PLHIV were seen in HIV care and 58,737 (100%) were screened for TB at the 23 ITHC sites. Only two sites were implementing IPT and currently only the national data is available and it is not disaggregated by facility.

The national level conducted data driven mentorship and support and supervision visits in 19 ITHC sites. The visits focused on strengthening data collection and building capacity for local use of data for nurses at the health facilities. Officers from the NTP and the Union provided on-the-job training and mentorship to ITHC site nurses on the new recording and reporting tools for TB.

Furniture (one filing cabinet, two office desks, six office chairs per site) was procured for the additional 10 ITHC sites. Renovations for these sites are still to be carried out through GF and these are expected to be initiated before December 2015. The furniture complements the already existing resources and ensures a one stop shop approach in the provision of integrated TB-HIV care and treatment.

Challenges:

- The percentage of all forms of TB cases diagnosed among children (0-14 years) was 7.3% (1,476/20,244) against a target of 10%. The target was not met possibly because APA1 only focused on conducting a situational analysis on childhood TB, adaptation of the WHO/Union desk guide and revision of Childhood TB training materials. In APA2, the training materials and the desk guide will be used to train HCWs through GF and CTB in 2016 and this is expected to contribute to an increase in case finding of TB in children. Funding support through CTB has a component for support and supervision in one pilot province in collaboration with MCHIP, a local partner with presence in the respective Province.

- Only 19 of the 36 sites received data- driven mentorship, support and supervision visits due to the insufficient funding to cover all 36 sites and delayed GF support for the renovations of the 10 additional sites. In response to this challenge, in APA1, CTB trained district and provincial health workers on data use which included supportive supervision. As a result it is envisaged that most of the support visits for ITHC sites will be implemented by provincial and district staff in the future.

Sub-objective 4: Targeted screening for active TB

The interventions and activities aimed at strengthening targeted screening for active TB were as follows:

1. **Contact investigation implemented and monitored**

    - Pilot intensified contact investigation for both adults and children in two high TB notification districts

2. **TB social determinants identified and appropriate interventions designed, implemented and monitored**

    - Adapt WHO guidelines for active TB screening and reporting tools among high risk groups

The table below summarizes the outcome indicators for this sub-objective.

Table 5: Outcome indicators for sub-objective 4

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
4.1.1	#/% of eligible index cases of TB for which contact investigations were undertaken	**Description:** The proportion of eligible index cases of TB for which contact investigations were undertaken **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of index cases of TB for which contact investigations were undertaken during the period of assessment **Denominator:** Total number of index cases registered during the period of assessment"	Unknown (2014)	100% (eligible index cases are all bacteriologically confirmed cases)	N/A (The activity to be measured had not started by the end of APA 1 – please see narration for details
4.1.2	#/% of children (under the age of five) who are contacts of bacteriologically-confirmed TB cases that are screened for TB	**Description:** The proportion of children (<5) who are contacts of bacteriologically-confirmed TB cases that are screened for TB (investigations for TB must be performed in accordance with existing national guidelines) **Indicator Value:**	Unknown (2014)	100% (eligible index cases are all bacteriologically confirmed cases)	N/A (The activity to be measured had not started by the end of APA 1 – please see narration for details

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
		Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of children (<5) who are contacts of bacteriologically-confirmed TB cases that are screened for TB **Denominator:** Total number of children (<5) who are contacts of bacteriologically-confirmed TB cases"			
4.1.3	#/% of confirmed TB patients by case finding approach (CI, ACF, ICF), by key population and location (ex, slum dwellers, prisoners) (Service cascade)	**Description:** The number of TB cases all forms reported by the NTP disaggregated by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e., gender, children, miners, urban slums, etc.) and/or case finding approach (ICF, ACF, CI). **Indicator Value:** Number and where available, percent Level: National and Challenge TB geographic areas **Numerator:** Number of TB cases all forms (bacteriologically confirmed + clinically diagnosed; includes new and relapse cases) reported (by setting/ population/ case finding approach) nationally and in Challenge TB geographic areas in the past year **Denominator:** Total number of TB cases (all forms) notified nationally and in Challenge TB geographic areas"	Unknown (2014)	10% (the 3% yield is expected in contacts based on meta-analysis by Gregory[8] et al, 2013, assuming each index case has 6 contacts based on DHS	N/A (The activity to be measured had not started by the end of APA 1 – please see narration for details

[8] *Gregory, F.J. et al., 2013. Contact investigation for Tuberculosis: a systematic review and meta-analysis. European Respiratory Journal, 41(1), pp.140-156*

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
4.1.4	% of confirmed TB cases diagnosed by CI initiated on treatment	Indicator Value: % **Level:** CTB (2 districts) **Source:** CTB Quarterly reports **Means of Verification:** Support visits reports **Numerator:** Number of confirmed TB cases diagnosed by CI initiated on treatment **Denominator:** Total number of confirmed TB cases diagnosed by CI	Unknown (2014)	100%	N/A (The activity to be measured had not started by the end of APA 1 – please see narration for details
4.2.1	Status of active case finding (0=no ACF policies or practices implemented; 1=policies or laws supporting ACF have been enacted; 2=ACF policy has been piloted/introduced in limited settings; 3=ACF policy implemented nationally)	**Description:** This indicator measures the level to which active case finding (ACF) policy is implemented in the country. **Indicator value:** Score based on below: 0=no ACF policies or practices implemented; 1=policies or laws supporting ACF have been enacted; 2=ACF policy has been piloted/introduced in limited settings; 3=ACF policy implemented nationally **Level:** National"	0 (2013)	1	0

Key Results:

Contact investigation implemented and monitored

Data related to most indicators of this activity could not be collected as the field activity has not started yet. However, a consultative meeting was held to draft the standard operation procedures for contact investigation. Two local community based organizations (CBOs) that will implement this activity were engaged, and in consultation with beneficiary districts, provided 4 riders that were trained on motorcycle riding to carry out the contact investigation exercise. NTP has started to routinely collect the number of children under 5 years who are contacts of bacteriologically confirmed TB cases and from January to June 2015, 158 child contacts were reported from all provinces of whom 151 (96%) were initiated on IPT.

TB social determinants identified and appropriate interventions designed, implemented and monitored

The terms of reference for the technical assistance to conduct the adaptation of the WHO guidelines for active TB screening and reporting tools among high risk groups were developed and approved by

the NTP in March 2015. The guidelines will be developed in APA2. They delay was caused by late disbursement of CTB funds to WHO.

Challenges:

- The activity on contact investigation was carried over to APA2 due to changes in the implementation approach from a proposed pilot which was redefined to an operations research (OR) activity to be carried out by NTP and CTB. The OR protocol will be developed and submitted for approval by the local ethics council for implementation in APA2.

- The activity to adapt WHO guidelines for active TB screening and reporting tools among high risk groups was not conducted in APA1 due to the late disbursements of funds to WHO which is the collaborating partner responsible for this activity. This activity has been carried over to APA2.

Sub-objective 6: Management of latent TB infection

The interventions and activities aimed at strengthening management of latent TB infection were as follows:

1. Latent TB Infection diagnosis and treatment among high risk groups ensured.

- Printing of existing IPT guidelines
- Conduct two targeted IPT mentorship visits to IPT sites to complement visits planned under GF

The table below summarizes the outcome indicators for this sub-objective.

Table 6: Outcome indicators for sub-objective 6

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
6.1.1	Status of implementing LTBI diagnosis and treatment strategies (0=no policy or practice in place; 1=policies have been developed/updated; 2=LTBI strategies piloted or implemented in limited settings; 3=LTBI strategies implemented nationally)	**Description:** This indicator measures the status of implementing LTBI diagnosis and treatment strategies in the country. **Indicator value:** Score based on below: 0=no policy or practice in place; 1=policies have been developed/updated; 2=LTBI strategies piloted or implemented in limited settings; 3=LTBI strategies implemented nationally **Level:** National"	2 (2014)	2	2
6.1.2	% of eligible persons completing LTBI treatment, by key population and adherence strategy	"**Description:** This indicator measures the percent of eligible persons completing LTBI treatment, by key population and adherence strategy according to national policy **Indicator Value**: Percent Level: National and Challenge TB geographic areas **Numerator:** Number of eligible persons completing LTBI treatment **Denominator:** Total number of eligible persons"	74% (Jan-Mar 2014 cohort)	80%	67% (11,830/17,676) These data are for PLHIV including children from all the sites implementing IPT.

Key results:

Zimbabwe adopted IPT for treatment of latent TB infection as one of the key strategies to reduce the burden of TB among PLHIV. A total of 83 sites were offering IPT services by the end of APA1. CTB supported the phased roll out of IPT by printing and distributing of 4,500 copies of ICF algorithm, 1,700 copies of IPT Frequently Asked Questions (FAQs) and 1,700 copies of IPT guidelines. This was to complement support by other partners in the phased roll out of IPT. The support also included targeted IPT mentorship visit to 10 IPT sites to complement visits planned under GF. From January to August 2015, there were 270,471 TB screening episodes of PLHIV of which 106,889 (40%) were eligible for IPT and 24,544 (23%) were initiated. Of the cohort that was initiated on treatment from January to March 2014, 67% (11,830/17,676) completed IPT.

Challenges:

- Low uptake of IPT was noted due to the following reasons:
  - Low confidence amongst HCWs to initiate IPT due to reported adverse events among patients. This challenge was an agenda item in the TB-HIV coordinating meeting convened through CTB support and resolutions made to strengthen on-site mentorship through GF support. CTB also supported printing and disseminated IPT guidelines and frequently asked questions which will contribute in addressing this challenge.
  - Inadequate community awareness on IPT.

- Low completion rate of IPT was thought to be due to the high pill burden on patients who are still taking the 100mg Isoniazid (INH) instead of the 300mg INH. During the course of the year, 300mg tablets were introduced to address concerns on high pill burden.

- Unsatisfactory data quality in report compilation due to limitations of the paper based system to report unique patients as opposed to screening episodes resulting in double counting and making it difficult to use the data in decision making. This anomaly is expected to be rectified when the Electronic Patient Monitoring System (EPMS) is rolled out as it minimizes double counting.

Objective 7: Strengthened TB Platforms

The interventions and activities aimed at strengthening of TB platforms were as follows

1. In-country political commitment strengthened

- Engage parliamentary portfolio committee on health to lobby for increased TB funding
- Initiate country participation in the Global Parliamentary Caucus on TB

2. Leadership and management competencies and capacities of NTP ensured

- Support NTP and CTB staff to attend International Management Development Programme (IMDP) management courses
- Conduct one annual consultative meeting with national and provincial managers to discuss TB policies, implementation arrangements and performance of NTP including CTB supported interventions

The table below summarizes the outcome indicators for this sub-objective

Table 7 : Sub-objective outcome indicators:

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
7.2.3	Number of Parliamentarians attending an advocacy dialogue for increased domestic TB funding	**Description:** Number of parliamentarians **Indicator Value:** Number Level: National **Source:** CTB quarterly report **Means of Verification:** Parliamentary portfolio committee meeting reports	0(2014)	25	32
7.3.2	# of NTP members participating in a Challenge TB-led leadership program	**Description:** This indicator measures the number of NTP members participating in a CTB-led leadership program **Indicator Value:** Number **Level:** National **Numerator:** Number of NTP members participating in a CTB-led leadership program"	0 (2014)	2	2
7.1.2	Status of NSP development: 0=The NSP is expired or not being implemented; 1=An updated/new NSP is being drafted; 2=NSP has been developed and costed; 3=NSP has been finalized, endorsed by the government and implemented	**Description:** This indicator measures the status of NSP development. **Indicator value:** Score based on below: 0=The NSP is expired or not being implemented; 1=An updated/new NSP is being drafted; 2=NSP has been developed and costed; 3=NSP has been finalized, endorsed by the government and implemented Level: National"	2 (2014)	3	3

Key results:

In-country political commitment strengthened

A total of 52 participants (34 males, 18 females), among whom 32 (19 males, 13 females) were members of parliament, attended an advocacy dialogue which was funded by CTB for increased domestic TB funding in August. Of the 32, 14 members of parliament joined the Global TB Caucus and signed the Barcelona Declaration as an expression of their commitment to end TB in Zimbabwe. There was a shared commitment to establish a taskforce among the parliamentarians to push the TB agenda in parliament and to advocate for all members of the parliament to sign the Barcelona Declaration. In APA2, CTB will continue to support parliamentary engagement to ensure that a specific percentage of the National AIDS Trust fund (NATF) is allocated to NTP annually and lobby for TB to be declared as an emergency in Zimbabwe.

The office of the Minister of Health and Child Care has been engaged and the Minister will attend the 46th World Lung Conference in Cape Town as the first step to formally engage the country in the Global Parliamentary Caucus on TB. This activity has been carried over to first quarter of APA 2.

Leadership and management competencies and capacities of NTP ensured

A one day consultative meeting for Senior Managers from both National and Provincial level was successfully convened on February 22, 2015. A total of 22 managers were in attendance, including the Permanent Secretary for Health. The CTB APA1 work-plan was presented and Senior Management made a commitment to support its implementation. The meeting provided a platform to discuss broader bottlenecks to TB and TB-HIV control efforts. As a result of this engagement most of CTB supported activities were successfully implemented. The attendance of the Permanent Secretary, for the first time, was noted. His continued commitment to support CTB engagements is anticipated to increase attention to the national TB response by the MoHCC staff.

CTB supported two NTP and three CTB staff to attend four different International Management Development Programme (IMDP) course to strengthen leadership and management competencies in TB control. Courses attended included:

- Mass Media and Communications course attended by a CTB staff, whose objective was to equip participants with community mobilization and communication skills. Such skills will be applied in the development of a communications strategy, supporting the community mobilization and message development of a Knowledge, Attitudes and Practices (KAP) study and for subsequent community campaigns to be carried out in APA 2 and beyond.
- Strategic planning and innovation course attended by one NTP and one CTB staff, aimed to impart various creative thinking techniques to the participants in strategic planning. The skills attained by the CTB staff will strengthen quality of technical assistance provided to the NTP.
- Budget and Financial risk management course attended by one CTB staff, whose objective was to equip participants with skills on budgeting and financial management processes and principles of the Global Fund's operation risk management framework.
- Monitoring and evaluation course attended by one NTP staff, whose objectives were to equip participants with knowledge on how to conduct support supervision, data collection, analysis and audit to enable drawing meaningful conclusions as well as to improving the quality of reporting. The trained officer is responsible for coordinating NTP activities in the Northern region of the country and the acquired knowledge will enable her to build capacity of officers she will be supporting.

Objective 8: Comprehensive partnerships and informed community involvement

The interventions and activities aimed at strengthening partnerships and community involvement were as follows:

1. National partnership and coordinating bodies functioning with appropriate representation and capacity

- Conduct national PMDT coordination meeting.
- Conduct national annual TB–HIV coordinating meeting.

The table below summarizes the outcome indicators for this sub-objective.

Table 8: Outcome indicators for Sub-objective 8

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
8.1.2	National DR-TB coordinating body functioning (0=no DR-TB body exists; 1=coordinating body established, but does not meet regularly; 2=group meets regularly; 3=group meets regularly and deliverables produced from meetings)	**Description:** This indicator measures the status of national DR-TB coordinating body **Indicator value:** Score based on below: 0=no DR-TB body exists; 1=coordinating body established, but does not meet regularly; 2=group meets regularly; 3=group meets regularly and deliverables produced from meetings **Level:** National"	1(2014)	3	3

Key results:

National partnership and coordinating bodies functioning with appropriate representation and capacity

The national annual TB-HIV coordinating meeting was held in June 2015. There were two major recommendations: to strengthen surveillance for adverse events, such as liver toxicity associated with IPT, and to accelerate the roll out of EPMS to all sites implementing IPT. The second recommendation was meant to address data quality issues. As a result of the first recommendation, the Medicines Control Authority of Zimbabwe (MCAZ) visited all sites implementing IPT to offer on job training and mentorship on pharmaco-vigilance. There are plans to conduct operations research through Global Fund to investigate the magnitude of liver toxicity associated with IPT.

A national PMDT coordination committee meeting was conducted in September, 2015. Members were drawn from national, provincial health management teams as well as other stakeholders. The meeting discussed PMDT performance progress at national and provincial level, focusing on case detection, treatment outcomes; challenges in program implementation as well as progress on the Drug Resistant Survey (DRS). Provinces shared experiences on clinical management of complicated DR-TB cases. The committee recommended the following;

- National level should expedite the distribution of NTP R&R tools that are in short supply.
- Districts and provinces should ensure distribution of adverse events forms to all health facilities.
- District TB coordinators should verify, follow up and register all patients diagnosed with RR- TB strains at laboratories offering Xpert MTB/RIF technology to ensure all detected cases are accounted for and initiated on treatment.

Challenge:

- Funding commitment from both domestic and external sources to support these important coordinating meetings continues to diminish with time and this is likely to result in ineffectiveness in the national coordinating response. CTB will continue to lobby for increased commitment from domestic sources.

Objective10: Quality data surveillance and M&E

The interventions and activities aimed at strengthening data surveillance and M&E were as follows:

1. **Well-functioning case or patient-based electronic recording and reporting system is in place.**

    - Provide technical and systems support for the Electronic TB recording and reporting system (ETRR)

2. **Epidemiologic assessments conducted and results incorporated into national strategic plans**

    - Conduct national Drug- resistance survey
    - Conduct program performance review meetings

The table below summarizes the outcome indicators for this sub-objective.

Table 9: Outcome indicators for Sub-objective 10

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
10.1.4	Status of electronic R&R (0=R&R system is entirely paper-based; 1=electronic reporting to national level, but not patient/case-based or real time; 2= patient/case-based ERR system implemented in pilot or select sites (TB or MDR-TB); 3=a patient/case-based, real-time ERR system functions at national and subnational levels for both TB and MDR-TB)	**Description:** This indicator measures the status of electronic recording and reporting (ETRR) **Indicator value:** Score based on below: 0=R&R system is entirely paper-based; 1=electronic reporting to national level, but not patient/case-based or real time; 2= patient/case-based ERR system implemented in pilot or select sites (TB or MDR-TB); 3=a patient/case-based, real-time ERR system functions at national and subnational levels for both TB and MDR-TB; 4= a patient/case-based, real-time ERR system is functional at national and subnational levels for both TB and MDR-TB completely and meets WHO standard for TB surveillance data quality - i.e., data in the national database are accurate, complete, internally consistent, within timelines set, validated and free of duplicates and a data quality audit system is put in place (source: Standards and	1 (2014)	2	2

		Benchmarks for Tuberculosis Surveillance and Vital Registration Systems – Checklist and User Guide, WHO, 2014). **Level:** National"			
10.2.3	DR-TB surveillance survey conducted/completed in the last 5 years	**Description:** DR-TB prevalence survey has been conducted/completed within the last five years **Indicator Value**: Yes/No"	No	Yes (on-going)	Yes (on-going)

Key results:

Well-functioning case or patient-based electronic recording and reporting system is in place

The MoHCC developed, piloted and implemented the EPMS for the HIV programme and ETRR for the TB programme with support from GF, TB CARE I and CTB. As of September 2015, the EPMS was functional in 246 facilities with 695 data entry clerks employed countrywide. This number of facilities represents 16% of the total number of 1566 health facilities in the country. Training, supervision and mentorship activities have been carried out since 2012.

The ETRR has had an Alpha test and was piloted in Matabeleland South province. During the pilot, MoHCC and partners realized that there were several synergies between the two systems and that these two systems should be integrated given that 69% of TB patients are co-infected with HIV. At the present moment, these two system are not compatible with one another. The information for HIV--infected TB patients may have already been captured in the EPMS, hence the risk of duplicating efforts by running the two systems (EPMS and ETRR) in parallel. The GF under the New Funding Model committed to fund the development of a singular, cohesive, and harmonized electronic system. The resources already invested in the current EPMS will be put into maximum use with one integrated robust system.

Technical Assistance (TA) from IRD was provided through CTB support to provide guidance on the intention to integrate the above-described two electronic systems. The following options were presented for MoHCC to consider:

- Option 1 - convert EPMS to a web-based application that supports offline entry, add TB variables, forms, and reports to the EPMS, migrate data from ETRR into the new system.
- Option 2-use an existing open source medical record system, such as OpenMRS.

The MoHCC has opted for option 1 to be implemented with funding from GF and TA from CTB.

Epidemiologic assessments conducted and results incorporated into national strategic plans

The burden of Drug-Resistant TB (DR-TB) in the country is not known. The first ever TB-Drug Resistance Survey (TB-DRS) in the country was conducted in 1994-95. CTB investments in APA 1 focused on the piloting of the TB-DRS followed by the actual implementation of the survey. A training of trainers on the TB-DRS was conducted in March 2015 and the pilot survey started in April 2015 in 10 sites with results showing sub-optimal recruitment of study participants across all sites. Recommendations from the pilot review supported through TA from KNCV, resulted in the amendment of the survey protocol with the main changes being the review of the TB diagnostic algorithm in sites that were offering Xpert MTB/RIF. Clients eligible for Xpert MTB/RIF at these sites will have their specimen sent to the National TB Reference Laboratory (NTBRL) instead of being done locally to

ensure standardization. The amended protocol was approved by the Medical Research Council of Zimbabwe (MRCZ) in August 2015 followed by phased on-site trainings on the actual implementation of the survey (starting with low volume sites which started data collection soon after training). By end of APA1, 278 health care workers (141 males, 137 females) from 37 out of 83 participating sites were trained. By September 30, 2015, 6% (140/2,283) of the targeted participants were enrolled. All the participating sites will be trained by November 30, 2015 and patient recruitment will continue up to August 2016 and the results will be available by December 2016. In July 2015, a survey coordinator was recruited to coordinate implementation of the survey.

In an effort to improve quality and use of routine surveillance data to strengthen program performance, CTB supported performance review sessions to assess TB and TB-HIV data quality and review performance indicators. In these sessions indicators are analyzed comparing trends and achievements against performance targets disaggregated by sites (province, district, facility). In addition, quarterly and annual plans are developed and participants are updated on emerging issues and changes in policy guidance on TB and TB-HIV. This has assisted programme implementers to provide feedback, share experiences, identify strengths and weaknesses and agree on action points to address challenges. The agreed action points are followed up in subsequent review meetings. This approach has contributed to improved program performance.

Challenges:

- Challenges in the implementation of TB-DRS are as follows:
  - Delays in fund disbursement to WHO, the collaborating partner responsible for coordinating this activity. As a result some activities have been carried over to APA2.
  - Delay in signing of the agreement between the Antwerp Supra-national Reference Laboratory (SRL) and the National TB Reference Laboratory (NTBRL). This has since been rectified.
  - Inadequate funds to cover travel allowances for HCWs who track and enroll eligible participants and courier fees for the referral of specimens from remote clinics to the NTRL. A total of $800,000 was declared as savings from GF and was reprogrammed to include the funding gap for the DRS.
- Due to funding constraints, only a limited number of meetings could be supported per province or district. Funding commitment from both domestic and external partners to support performance review meetings continues to diminish with time and this is likely to result in ineffective national coordinating response. CTB will continue to lobby for increased commitment from domestic funding.

Objective11: Human Resources Development

The interventions and activities aimed at strengthening data surveillance and M&E were as follows:

1. Qualified staff available and supportive supervisory systems in place

- Development and support of human resource capacity in TB data collection, analysis and use
- NTP capacity building plan
- Carry out data driven support and supervision
- Updating and printing of PMDT training material

The table below summarizes the outcome indicators for this sub-objective

Table 10: Outcome indicators for Sub-objective 11

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
11.1.2	% of planned supervisory visits conducted (stratified by NTP and Challenge TB funded)	**Description:** The proportion of planned supervisory visits conducted (stratified by NTP and Challenge TB funded) **Indicator Value:** Percent Level: National and Challenge TB geographic areas **Numerator:** Number of planned supervisory visits conducted during reporting period **Denominator:** Total number of supervisory visits planned for the same period"	74% (TB CARE I, APA4)	100%	82% (72/88)
11.1.3	# of healthcare workers trained, by gender and technical area	**Description:** This indicator measures the number of healthcare workers (which includes health facility staff, community health volunteers, laboratory staff, sputum transport technicians, community-based DOTS workers) trained, by gender and sub-objective. Training includes any in-person, virtual, or on-the-job training that is longer than half a day and for which curriculum is available. This indicator is interchangeable with 'Number of individuals trained in any component of the WHO Stop/End TB Strategy with USG funding' which USAID missions may have as a requirement for internal agency reporting. **Indicator Value:** Number Level: National and Challenge TB geographic areas **Numerator:** Number of HCWs trained during the reporting period"	1,058 (TB CARE I, APA4)	1,316	1,619 (748 males, 871 females) See Annex I for breakdown by sub-objective

Key Results:

Qualified staff available and supportive supervisory systems in place

The NTP with support from TB CARE I developed a guide (Making Sense of TB Data) on collection, analysis and use of TB data for health workers at all levels. In CTB APA1, 61 health workers (49 males and 12 females) were trained based on the guide. The objective of the training was to capacitate a core group of trainers who will in turn cascade the training to their respective districts and cities.

Training in "Making Sense of TB Data", participants go through practical exercises on support and supervision, at Mnene Mission Hospital in Mberengwa district of Midlands province. (Credit: Nqobile Mlilo)

A human resources situational analysis was conducted by CTB, NTP and NAP to gather information on the status of policy guidance and implementation approach of human resources capacity building to inform the development of an NTP capacity building plan. The process involved review of key documents and conducting interviews with HCWs at different levels as well as training schools. The key findings were as follows:

- The presence of partners who have and continue to invest in capacity strengthening of the health worker work-force. These partners include GF and United States Government (USG); through CDC and CTB. The relative contribution from the different partners include the following:

    - CTB: Training on TB-HIV, Data collection, analysis and use and Clinical management of drug resistant TB; support and supervision at all levels.
    - GF: Training of TB Case management, PMDT and Microscopists.
    - CDC through APHL: Laboratory mentorship for quality assurance.

The support for trainings has been predominantly hotel based workshops with limited post training mentorship.

There is no centralized database of HCWs trained in TB, TB-HIV and DR-TB, however there is one that tracks trainings on HIV using Training System Monitoring and Reporting Tool (TrainSMART). This is open-source, web-based software that collates data about training programs. TrainSMART enables users to generate customized reports. The web interface is permission-based, which allows different users to see different facets of the website—administrators can configure user permissions; data entry staff can enter data but not query the database; managers can design and generate reports from the data; and stakeholders or funders can be granted access rights to visualize summary reports. There are plans to adopt this software for use in the TB related training programmes.

There is a comprehensive HIV mentorship programme supported by I-TECH which however does not adequately cover TB. The HIV mentorship program comprehensively covers different aspects of HIV management such HIV Care and treatment, paediatric HIV care and management of pregnant women on ART. There is however limited mention of TB-HIV issues. This presents a missed opportunity for comprehensive on-site mentorship on TB-HIV.

The development of the Capacity Building Plan was carried over to APA2. This plan will define the systematic training and mentorship of HCWs and curriculum revision for pre-service training. This will ensure comprehensive coverage of TB during pre-service training.

Routine support and supervision visits constitute an integral part of program management at all levels. In APA1, 2 out of 2 (100%) national to province, 10 out of 12 (83%) province to district and 60 out 74 (81%) district to health facility data-driven support and supervision visits were conducted. The visits mainly focused on data quality assessments, analysis of performance indicators, supply chain management and on-the-job training for HCWs. The visits were conducted using a structured standardized checklist with data tables. The supervisors worked with the local HCWs to analyze the data, identify strengths and weaknesses and discuss reasons for poor performance. Constructive feedback and staff support in developing strategies and action points to solve identified challenges was provided. Key issues from the visits included: unsatisfactory TB symptom screening among PLHIV in some facilities; inadequate resources (such as, R&R tools and sputum mugs); sub-optimal use of Xpert technology; and minimal engagement of communities in TB care and control.

Challenges:

- The activity to update and print the PMDT guidelines was delayed due to delays in disbursements of funds to WHO which is the collaborating partner responsible for this activity. This activity has been carried over to APA2.

- The planned support and supervision visits by Midlands and Masvingo provinces could not be completed in APA1 due to delays in acquitting financial disbursements for travel and subsistence for support and supervision. As a financial security measure follow up disbursements could only be done after previous disbursements were fully accounted for. CTB will continue to engage the provincial leadership to highlight the importance of timely acquittals.

4. Challenge TB Support to Global Fund Implementation

In-country Global Fund status - key updates, current conditions, challenges and bottlenecks

The main goal of the new Global Fund grant (2015-2017) is to contribute to the reduction of the TB, TB-HIV and DR-TB burden in Zimbabwe in line with the national and global TB targets. The strategic priorities for this grant include:

- Addressing the declining TB case notifications,
- Ensuring timely initiation of treatment,
- Expanding access to integrated TB and HIV services through a one-stop shop approach,
- Strengthening programmatic management of drug-resistant tuberculosis (PMDT),
- Optimizing the contribution of communities in TB care and control through community empowerment.
- Strengthening program management, procurement and supply management as part of supportive health system environment to facilitate effective programme implementation.

The table below summarizes the GF investment and rating.

Table 11 : Global Fund Status

Name of grant & principal recipient *(i.e., Tuberculosis NFM - MoHCC)*	**Average Rating***	**Current Rating**	**Total Approved Amount**	**Total Disbursed to Date**	**Total expensed** *(if available)*
ZWE-T-MoHCC (2015-2017)	**N/A	**N/A	$38.8M	$9.5M	
ZIM-809-G12-T	A2	A2	$51.9M	$51.9M	
ZIM-509-G08-T	B1	B2	$6.8M	$6.8M	

***The average rating was not available at the time of reporting*

Following the approval of the grant, MHCC as the new Principal Recipient (PR) established a Programme Coordinating Unit (PCU) that has assumed responsibility of managing the grant previously managed by the United Nations Development Program (UNDP) under the additional safeguard measures. Delays in setting up the PCU led to late disbursement of funds for project implementation. As a remedial action, the NTP in collaboration with CTB staff, have since developed an acceleration plan to ensure planned activities are implemented within the prescribed time frame.

There have been delays in engaging Sub-Recipients which has affected the implementation of some activities, though the process is expected to be finalized by the end of December 2015.

Challenge TB involvement in GF support/implementation, any actions taken during Year 1

In APA1, the following activities were supported by CTB in collaboration with GF:

- Joint quarterly GF/CTB implementation planning meetings and monthly activity review meetings with NTP to track progress in implementation of both CTB- and GF-supported activities.

- Performance review sessions and supportive supervision visits where CTB supported six provinces in the southern region with GF supporting the rest of the country.
- An additional ten ITHC sites are being renovated by GF and CTB has procured furniture.
- CTB is supporting 50 motorcyles in 42 districts while GF is supporting motorcycles in the rest of the districts.
- All the GF- and CTB-supported PMDT activities were coordinated by the CTB PMDT Officer seconded to the NTP.
- CTB staff participated in the commemoration of the World TB Day 2015, and the Country Director highlighted the USAID investment in TB care and control through CTB.
- CTB supported mentorship visits to support the roll out of IPT and printing of IPT Guidelines and Frequently Asked Questions.
- In the development of APA2 plan, CTB reviewed the GF investment in TB control interventions in the country.

The CTB Country Director was appointed Deputy Chair of the Country Coordinating Mechanism (CCM TB Committee) for the period 2015-2017, a development which will provide CTB with a platform to influence the timeous implementation of GF-supported activities and improve the current low rating. CTB is routinely tracking the GF performance rating and towards the end of APA1, the PR initiated reprogramming of GF savings and CTB contributed to the planning process.

5. Challenge TB Success Story

Making sense of TB data in Zimbabwe

Zimbabwe has a paper based Recording and Reporting (R&R) system for TB care and it is decentralized to all levels of health facilities. Despite this robust system, the use of data by Health Care Workers (HCWs) at local level has remained limited. In most situations, quarterly reports were submitted by the district level upwards. This was thought to be due to a lack of guidance on how to analyse and interpret data for decision making.

At a facility level, HCWs recorded information into the TB patient registers without compiling reports for analysis. This meant that HCWs were frequently unaware of their performance strengths and challenges. They were not able to identify local solutions based on available data to improve management of both TB patients and TB programme activities. At the end of each quarter, the District TB Coordinator visited all the facilities updating the district TB register which was used to compile the quarterly TB reports on case notifications and TB treatment outcomes for the same quarter in the previous year. This was a cumbersome process, especially in districts with a large number of health facilities. The manual district TB report was not disaggregated by facility and merely presented a summary of TB care indicators for the entire district. It followed that it was difficult for the district health management team to compare performance across facilities and prioritize support. The approach of supervision visits was mainly top-to-bottom, rather than joint assessments for problem solving. The visits used to focus on processes without reference to locally generated data to measure TB program performance results.

Through USAID funded support (TB CARE I), the NTP started the development of a ***"National guide on TB data collection, analysis and use for health workers"*** which has been completed in CTB APA 1. This document provides step-by-step guidance to HCWs on collection, analysis and use of routine TB data at all levels of the health care system. The guide was successfully piloted in selected primary health care facilities and hospitals in three districts. The findings of the pilot showed that it was feasible to implement the guide with favorable outcomes. The NTP through CTB support decided to roll out this approach to all levels from primary to central health care facilities and three training sessions have been conducted: the first one in TB CARE I/APA 4 and two in CTB APA 1. A total of 96 HCWs (70 males and 26 females) representing all the provinces and most districts and cities in the country have been trained through TB CARE I and CTB support.

What positive changes have resulted from this intervention?

- The guide has influenced the NTP to revise the R&R tools to include key indicators which were previously not tracked, such as presumptive TB patients identified and appropriately investigated and age disaggregation for TB treatment outcomes, among others.

- Following the pilot, the health facility TB reporting form was revised and rolled out nationally. For the first time in Zimbabwe, facilities have started reporting their own data. This form has a qualitative section where HCWs report achievements and challenges after data analysis and action points with clear timeframes to address them and these are endorsed by the head of the facility. This local use of data has fostered teamwork among HCWs who are empowered, and who take full ownership of TB program activities at the health facilities where they work and for the communities that they serve***.***

- The districts have created Excel based databases with quarterly data from all the facilities. This has enabled districts to analyze and compare data by facility, thereby identifying high and low performers. This has enabled the district health management teams to prioritize health facilities for support to maximize use of existing resources.

- The guide has also a comprehensive support and supervision checklist that focuses mainly on key results based on the data. There has been a shift in approach to support and supervision from the traditional to the current style where supervisors and local staff jointly analyze and interpret TB data and agree on action points. Action points are written down in duplicate copy of a visit summary: a copy remains at the facility that was visited and the other copy belongs to the person in charge of the visiting team. S/he will then file it until the subsequent visit. Action points are delegated to a responsible person to carry out within a mutually agreed time frame to enhance follow up. Subsequent data-driven support and supervision visits start from a review of the action points of the previous visit.

- Comprehensive training materials including a facilitator's guide were developed for this guide and have been used in the trainings conducted so far. Mr. Paul Nyatsungo, Acting Provincial TB and Leprosy Coordinator, Mashonaland East Province, who was one of the beneficiaries of the training had this to say:

  "Making Sense of TB Data training was vital. As a Provincial Officer, I can now analyze district data and detect where urgent assistance is required. My visits to districts are now data driven and corrective measures are instituted early. Generally, the quality of data across the province has improved as a result of mentoring of district staff after the training. "

- An abridged training package on the guide will be shared during a postgraduate course at the 46th World Lung Conference to be held in Cape Town in December 2015.

Training in "Making Sense of TB Data", participants go through practical exercises on support and supervision, at Mzilikazi Clinic in Bulawayo City. (Credit: Nqobile Mlilo)

6. Operations Research

Title of OR study	Implementation Status	Key findings	Dissemination
Linkages between diagnosis and treatment for patients detected with rifampicin resistant strains using Xpert MTB/RIF assay in two provinces of Zimbabwe.	Ongoing This study was done by a trainee under the Structured operational Research and Training IniTiative (SORT IT) Data collection complete and data analysis on-going	Not available yet	To be done in APA2

7. Key Challenges during Implementation and Actions to Overcome Them

Challenge	Actions to overcome challenges
Technical	
Certain mandatory indicators are not routinely collected by NTP, hence the current recording and reporting system is not comprehensive enough to adequately provide for CTB R&R requirements.	CTB will work with NTP to put in place mechanisms to collect data for the indicators particularly those tracking new prioritized interventions, such as targeted screening. CTB will also develop a R&R system to track implementation by sub-grantees.
The differences in reporting timelines for NTP and CTB resulted in collection of incomplete data on selected indicators.	CTB to facilitate speed up of the implementation of DHIS2 in APA2. This will facilitate early report submission to NTP by provinces.
NTP changed the implementation approach for the planned intervention on contact investigation from a pilot project to operations research activity which resulted in delays in activity implementation.	The research protocol will be developed for implementation in APA2.
Consensus formation within the MoHCC to use Antwerp as the Supra-national Reference Laboratory for the TB-DRS was protracted, which delayed initiation of the survey.	Implementation of the survey was carried over to APA2.
Administrative	
Some provinces did not complete the planned support and supervision visits due to delays in acquitting financial disbursements for travel and subsistence.	CTB will continue to engage the provincial leadership to highlight the importance of timely acquittals.
Synchronizing implementation of co-funded activities with GF, particularly renovations of additional 10 ITHC sites, was a hurdle as GF funds were disbursed late.	CTB will closely work with NTP to ensure that the acceleration plan that has been put in place will be adhered to.
Some of the activities planned for APA1, such as DRS, were carried over to APA2 largely due to	An acceleration plan will be put in place to ensure that all carried-over activities will be prioritized

late disbursement of funds to WHO.	and completed in APA2.
Prevailing economic challenges in Zimbabwe have resulted in meager financial contribution by the government in TB control.	In APA2, CTB has planned continued advocacy dialogue with parliamentarians to lobby for increased domestic funding from the NATF.
There were some supported activities that included minor renovations. These were supposed to be done by Ministry of Local Government and Public Works as per government requirement for any public facility. The cost for bill of quantities provided exceeded the budget provision, leading to delays in implementation.	Private contractors, whose quotation was within budget had to be engaged to, supervised by Ministry of Local Government and Public Works as per government requirement.

8. Lessons Learnt/Next Steps

Lessons Learnt	Next Steps
The planning approach for CTB APA1 was inclusive, with participation from key stakeholders, such as NTP, NAP, Programme Management Unit PMU, USAID and local partners. This resulted in increased country ownership of CTB supported activities which facilitated smooth implementation.	It is recommended that this approach be sustained for all national TB control planning activities.
The media engagement highlighted knowledge gaps among journalists on TB care and control services.	In APA2, CTB will carry out a media mentorship program aimed at equipping journalists and media practitioners with correct knowledge of the programme for informed reporting.
The ETRR, EPMS and DHIS2 were implemented as parallel systems that are not interoperable, resulting in potential duplication of efforts, resources and increased work load for end users.	There is commitment from MoHCC through GF to support development of an integrated electronic R&R system, with technical assistance from CTB.
Co-funding of activities (such as renovations of additional ITHC sites) can result in delayed implementation.	There is need to minimize inclusion of activities that depend heavily on the implementation progress of a third party.
Recruitment of additional staff for CTB has expanded the scope of support to cover more technical areas in providing long term technical assistance to NTP.	Sustain the current technical support as long-term TA to MoHCC and NTP.

Annex I: Year 1 Results on Mandatory Indicators

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
2.1.2 A current national TB laboratory operational plan exists and is used to prioritize, plan and implement interventions.	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Score as of September 30, 2015	0	N/A	**None**	The country has an outdated comprehensive national laboratory strategic plan (2010 – 2014) with all national laboratory functions including TB.
2.2.6 Number and percent of TB reference laboratories (national and intermediate) within the country implementing a TB-specific quality improvement program i.e. Laboratory Quality Management System	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Number and percent as of September 30, 2015	2/2 (100%) 2014	N/A	**Limited**	Zimbabwe has since 2010 received technical assistance from The Zimbabwe National Quality Assurance Program (ZINQAP) Trust through funding support from CDC, to strengthen medical laboratory management towards accreditation. The only two national reference laboratories were enrolled into the SLMTA program. The last external assessment was done in 2014 for the 2

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
				laboratories, the outcome of which was (National TB Reference Laboratory (Bulawayo): 2 stars and National Microbiology Reference Laboratory (Harare): 1 star. This support has since waned due to limited funding and transitioned to Association of Public Health Laboratories (APHL), funded through CDC.
2.2.7 Number of GLI-approved TB microscopy network standards met	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Number of standards met as of September 30, 2015	9 (Standards: 1, 2, 3, 4, 5, 6, 8, 9, and 10)	N/A	**None**	Global Fund is funding the review of the existing standards for TB microscopy network and monitoring mechanisms were also supported through Global Fund.
2.3.1 Percent of bacteriologically confirmed TB cases who are tested for drug resistance with a recorded result.	**National 2014**	**CTB 2014**	**CTB APA 1 investment**	**Additional Information/Comments**
Percent (new cases), include numerator/denominator	U	U	**Substantial**	These data are based on new and retreatment cases tested with Xpert MTB/RIF assay. (Data on LPA are not available as the machine is not yet installed. Data on culture and DST are not routinely reported.) The current
Percent (previously treated cases), include numerator/denominator	U	U		

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
Percent (total cases), include numerator/denominator	54% (6,955/12,890) These data are based on Xpert results of new and retreatment cases	54% (6,955/12,890) These data are based on Xpert results of new and retreatment cases		national TB program recording and reporting tools (Laboratory register) do not disaggregate data by new and retreatment categories.
3.1.1. Number and percent of cases notified by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach	**National 2014**	**CTB 2014**	**CTB APA 1 investment**	**Additional Information/Comments**
Number and percent	National: 32,018 43.0% female (13,761/32,018); 7.5% Children <15 yrs (2,398/32,018)	(National total # cases notified: 32,018) Children <15 yrs: 7.5% (2,398/32,018) Contact Investigation: Not available Targeted screening (Miners, Prisoners): Not available	**Substantial**	Data for this indicator were collected without a comprehensive disaggregation by setting, population or case finding approach. The new recording and reporting tools introduced in June 2015 will capture additional risk groups such as miners, health workers and prisoners
3.1.4. Number of MDR-TB cases detected	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Total 2014	412 (2014)	412 (2014)		MDR-TB case detection is done through intensified case finding using Xpert MTB/RIF. GF through the HIV and TB NFM will procure adequate Xpert MTB/RIF cartridges until 2017. The NTP will
Jan-Mar 2015	88	88		
Apr-June 2015	*131	*131		

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
Jul-Sept 2015				review potential gaps for the activity in 2017. The data for the third quarter were unavailable at the time of reporting. *The figures were updated after submission of this tool
To date in 2015	219	219		
3.2.1. Number and percent of TB cases successfully treated (all forms) by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (i.e. gender, children, miners, urban slums, etc.).	**National 2013 cohort**	**CTB 2013 cohort**	**CTB APA 1 investment**	**Additional Information/Comments**
Number and percent of TB cases sucessfully treated in a calendar year cohort	Getting from WHO	80% (28,221/35,278)	**Substantial**	Treatment success rate in the general population is routinely tracked by NTP. However, this indicator cannot be disaggregated for treatment outcomes by setting and sub-populations for the cohort under review. The revised R&R tools (introduced in June 2015) include outcomes for PLHIV and children. The first disaggregated outcome data will be available for the patient cohort registered for TB treatment from July-September 2015.
3.2.4. Number of MDR-TB cases initiating second-line treatment	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Total 2014	381	381	**Substantial**	Global Fund has invested in second line TB drug procurement. In 2014, a total of 412 patients were diagnosed with DR strains in the country, of which 381
Jan-Mar 2015	88	88		
Apr-June 2015	122	122		
Jul-Sept 2015				

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
To date in 2015	*210	*210		(92%) were initiated on treatment. *The figures were updated after submission of this tool
3.2.7. Number and percent of MDR-TB cases successfully treated	**National 2012 cohort**	**CTB 2012 cohort**	**CTB APA 1 investment**	**Additional Information/Comments**
Number and percent of MDR-TB cases successfully treated in a calendar year cohort	Getting from WHO	75% (176/234)	**Substantial**	In 2012, 234 patients were initiated on treatment of whom 175 (75%) were successfully treated. MDR-TB patient care has been decentralized to districts. This has resulted in a mixed model of care that includes admission, clinic-based approach (where patients attend care as out-patients) and community-based approach. CTB and Global Fund TB NFM will co-fund PMDT trainings and establishment of provincial centres of excellence for clinical management of DR-TB.
5.2.3. Number and % of health care workers diagnosed with TB during reporting period	**National 2014**	**CTB 2014**	**CTB APA 1 investment**	**Additional Information/Comments**
Number and percent reported annually	Unknown (To be collected end of APA2)	2 out of 602 screening episodes	**Limited**	The new NTP recording and reporting tools capture this indicator. However, the tools were distributed in June 2015.
6.1.11. Number of children under the age of 5 years who initiate IPT	**National 2014**	**CTB 2014**	**CTB APA 1 investment**	**Additional Information/Comments**

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
Number reported annually	Unknown (To be collected end of APA2)	218 (From 23 ITHC sites in 17 urban areas supported by CTB)	**Moderate**	This indicator has not been tracked nationally in previous years, except for the 23 ITHC sites in 17 urban areas supported by CTB. However, the new NTP M&E tools now include this indicator. The indicator at national level will be reported in APA2.
7.2.3. % of activity budget covered by private sector cost share, by specific activity	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Percent as of September 30, 2015 (include numerator/denominator)	N/A	0%	**None**	There have been challenges in private sector engagement to meaningfully contribute to public health and TB interventions due to the existing harsh economic climate. The expectation to get private sector co-funding for CTB supported activities remains a challenge. However, CTB will continue to reach out to the private sector.
8.1.3. Status of National Stop TB Partnerships	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
Score as of September 30, 2015	0	N/A	**None**	The country has no Stop TB partnership, however there is a functional TB-HIV partnership forum that meets quarterly where partners involved in the national TB-HIV response interact and share areas of priority focus to minimize duplication of support and mobilize resources. Although this forum exists, it does not adequately address all the requirements outlined in the Stop TB partnership guidelines. CTB will work with the relevant stakeholders to establish a local chapter of the Stop TB partnership which is in line with the Stop TB Partnership guiding framework.
8.1.4. % of local partners' operating budget covered by diverse non-USG funding sources	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Percent as of September 30, 2015 (include numerator/denominator)	N/A	Not yet available	**None**	In CTB APA 1, CTB worked with Riders for Health, Rehabilitation and Prevention of TB (RAPT) and Zimbabwe National Network of People Living with HIV (ZNNP+). Information on their budgets for the parts that are not funded by USG are not yet available though will be available at the end of 1st quarter APA2.
8.2.1. Global Fund grant rating	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
Score as of September 30, 2015	B1	N/A	**Moderate**	In 2014, the GF rating was unsatisfactory (B1) mainly due to unrealistic targets that had been set based on the WHO estimates of the TB prevalence in the country. There are plans to adjust these targets downwards in line with the findings of the National TB Prevalence Survey.
9.1.1. Number of stock outs of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Number as of September 30, 2015	**0** for (National, Provincial and District)	**0** for (National, Provincial and District)	**None**	GF and JSI (through USG funding) have invested in country support for TB medicines logistics and supply management.
10.1.4. Status of electronic recording and reporting system	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
Score as of September 30, 2015	1 (2015)	N/A	**Substantial**	The AIDS and TB department has introduced an Electronic Patient Monitoring System (EPMS) which is operational in 246 facilities nationwide. The Electronic TB Recording and Reporting System (ETRR) was piloted in selected provinces in APA1. CTB supported a comprehensive assessment of the ETRR and EPMS systems and recommended that it was vital to develop one integrated system for both TB and HIV. In 2016, the Global Fund has made a commitment to support this development and CTB will compliment this investment through provision of TA.
10.2.1. Standards and benchmarks to certify surveillance systems and vital registration for direct measurement of TB burden have been implemented	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Yes or No as of September 30, 2015	No	N/A	**None**	The last standard and benchmarks assessment was done in 2013 through technical assistance from KNCV. Most of the findings are no longer up to date and additional information may be required. The NTP has prioritized a standard and benchmark assessment in 2016 to inform the development of a follow-on NSP.

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
10.2.6. % of operations research project funding provided to local partner (provide % for each OR project)	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Percent as of September 30, 2015 (include numerator/denominator)	N/A	N/A	**None**	There was no investment from CTB in operations research in APA1 however in APA2 there are plans to engage a local partner to conduct OR to demonstrate the yield of GeneXpert in detecting TB in pregnant women.
10.2.7. Operational research findings are used to change policy or practices (ex, change guidelines or implementation approach)	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**
Yes or No as of September 30, 2015	N/A	N/A	**None**	Since no investment was made in operations research in APA1, there was no information collected on this indicator. However, in APA2 there are plans to support operations research.
11.1.3. Number of health care workers trained, by gender and technical area	**CTB APA 1**		**CTB APA 1 investment**	**Additional Information/Comments**
			Substantial	Human resource development remains crucial in sustaining technical and management competencies critical for TB control programme. This is a priority area in the NSP. In APA1, CTB made substantial investment in capacity building of health care workers in different areas of competencies as shown below:

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
	# trained males APA 1	**# trained females APA 1**	**Total # trained in APA 1**	**Total # planned trainees in APA 1**
1. Enabling environment	0	0	0	0
2. Comprehensive, high quality diagnostics	436	592	1028	975
3. Patient-centered care and treatment	36	31	67	76
4. Targeted screening for active TB	4	0	4	4
5. Infection control	0	0	0	0
6. Management of latent TB infection	0	0	0	0
7. Political commitment and leadership	3	2	5	7
8. Comprehensive partnerships and informed community involvement	0	0	0	0
9. Drug and commodity management systems	0	0	0	0
10. Quality data, surveillance and M&E	220	234	454	730
11. Human resource development	49	12	61	60
Grand Total	748	871	1619	1852
11.1.5. % of USAID TB funding directed to local partners	**National APA 1**	**CTB APA 1**	**CTB APA 1 investment**	**Additional Information/Comments**

MANDATORY Indicators				
Please provide data for the following mandatory indicators:				
Percent as of September 30, 2015 (include numerator/denominator)	N/A	13.4% (US$657,220/US$4,900,000)	**Limited**	This investment was for specimen transportation which was implemented by Riders for Health. The activities for two other local partners to conduct contact tracing was carried over to APA2.

Annex II: Status of EMMP activities

(a) Year 1 Mitigation Measures	(b) Status of Mitigation Measures	(c) Outstanding issues to address in Year 2	Additional Remarks
Education, technical assistance, training, etc. Education, technical assistance and training about activities that inherently affect the environment include discussion prevention and mitigation of potential negative environmental effects.	N/A	Nil	There were no educational and training activities that had any adverse impact on the environment.
Medical waste CTB will not be responsible for waste management. The Ministry of Health and Child Care as the implementing partner will assume responsibility for waste management. The following mitigation measures will be taken • The training curriculum supported by CTB for the DRS and Xpert installations will incorporate best management practices for proper handling, use and disposal of medical waste. The Ministry of Health and Child Care shall apply appropriate infection control measures as outlined in the national infection control policy (developed in line with the WHO guidelines). The national Infection Control Policy incorporates appropriate health and safety measures as well as environmental safeguards for proper disposal of medical waste. Infection control will also be incorporated in the support and supervision checklist for the National TB Control Program.	In the trainings on DRS and Xpert installations conducted in APA1, there was a comprehensive module on waste management which incorporated waste management practices for proper handling, use and disposal of medical waste. The checklist for routine support and supervisions included a section on infection control and no adverse events were recorded.	Nil	Nil
Small-scale construction The current renovations are targeting Government buildings. The renovations will be done by the Government of Zimbabwe Department of Public	In APA1 CTB supported minor renovations to facilitate installations of two X-Ray machines and a HAIN machine.	Nil	Renovations to facilitate installation of HAIN machine at the NTBRL in

(a) Year 1 Mitigation Measures	(b) Status of Mitigation Measures	(c) Outstanding issues to address in Year 2	Additional Remarks
Works. (In this case if the government of Zimbabwe does the renovations – they will not be paid. However, if Government sub-contracts the work due to lack of capacity or unacceptable timelines and CTB will take part in this process, and pay the company sub-contracted.) The plan has already been approved and ensuring that there will be no public health nuisance. Activities will be conducted following principles of environmentally sound renovation as provided in the Small Scale Construction chapter of the USAID Environmental Guidelines for Small-Scale Activities in Africa. For example, no lead paint will be used and excess materials will be recycled or disposed of in an environmentally sound manner. The Ministry of Health and Child Care Environmental Health Officers and CTB will conduct regular site inspections to ensure the public health standards are met in line with the Public Health Act of Zimbabwe. CTB Officers will also conduct regular visits to ensure that the minimum environmental requirements are met	These were subcontracted to private contractors. During the renovations CTB Officers conducted regular visits to ensure that the minimum environmental requirements were met. There was no environmentally adverse material used and excess material was collected by the local municipal authorities and disposed of in designated landfills routinely monitored by the Environmental Management Agency (EMA).		Bulawayo are still on-going, and are expected to be completed mid-October, 2015.